

REMARKS/ARGUMENTS

I. STATUS OF THE CLAIMS

Claims 1, 3 and 6-17 are pending in the Application. Claim 1 has been amended and supported in the original specification in Table 1 of the original specifications. Applicant respectfully submits that no new matter has been added.

Claims 1, 3, 6-7 and 9-14 are rejected under 35 U.S.C. 102(b) (hereinafter, "Section 102(b)") as anticipated by or, in alternative, under 35 U.S.C. 103(a) (hereinafter, "Section 103(a)") as obvious over U.S. Pat. No. 4,882,133 to Saegusa (hereinafter, "Saegusa").

Claims 1, 7-8 and 17 are rejected under Section 103(a) as obvious over Saegusa, in view of WO 02/24153 to Nishihama (English language equivalent U.S. Pat. No. 6,949,248, hereinafter, "Nishihama").

Claims 6, 15 and 16 are rejected under Section 103(a) as obvious over Saegusa, in view of U.S. Pat. No. 6,949,248 to Julian et al. (hereinafter, "Julian").

Applicant respectfully requests reconsideration and respectfully submits that all claims pending herein are believed to be in condition for allowance for the reasons explained below.

A. REJECTIONS OF CLAIMS 1,3, 6-7, AND 9-14 OVER SAEGUSA

Claims 1, 3, 6-7, and 9-14 are rejected under Section 102(b), or in the alternative under Section 103(a) as being unpatentable over Saegusa (U.S. Patent No. 4,882,133).

Applicant respectfully traverses this rejection.

Claim 1 is an independent claim from which claims 3, 6-7, and 9-14 depend from directly or indirectly. Claim 1 has been amended to recite, "A porous metal oxide material in a flake form produced from silicon dioxide (SiO₂) and titanium dioxide (TiO₂), having a

specific surface area of 130 to 3000 m²/g, an average particle diameter of 5 to 500μm, an average thickness of 0.1 to 5μm, an average aspect ratio of 5 to 300, and a peak fine pore diameter of 2 to 20 nm.”

To be anticipated by Saegusa, each and every element of Applicant’s amended claim 1 must be taught or suggested. Saegusa teaches, “any of metallic compounds which form a sol in a suitable dispersion medium may be used”, col. 2, line 3-5, but fails to teach the required limitations of claim 1, particularly, the specified surface area, average aspect ratio, and peak fine pore diameter of the claimed metal oxide material in flake form produced from silicon dioxide (SiO₂) and titanium dioxide (TiO₂). Saegusa is silent on the required limitations of amended claim 1 and its broad discussion of metallic compounds does not meet the requirements for a rejection under Section 102(b).

Accordingly, since Saegusa does not teach each and every limitation of amended claim 1, Applicant respectfully submits that claim 1 and its dependent claims are not anticipated by Saegusa. Accordingly, Applicant respectfully requests withdrawal of the rejection of Claim 1 under Section 102(b).

Neither are claims 1, 3, 6-7, and 9-14, in the alternative, unpatentable over Saegusa under Section 103(a). With regard to claims 1 and 3, the Examiner stated that,

“Although Saegusa is silent about the surface area and pore size as applicant set forth in claim 1, it is the position of the examiner that since surface area and pore size are determined by the process condition, the claimed surface area and pore size would be inherent to that of Saegusa. See MPEP 2112.

Since the mixed metal oxide composite is made by a process substantially identical with the process for making mixed metal oxide in the instant application. It is reasonably expected that the mixed metal oxide of Saegusa is similar to that of the

instant application. If they are any difference, the difference must be minor and obvious. The burden is shifted to the applicant to show the mixed metal oxide is different.”

MPEP section 2112 subsection IV states that, “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)” Saegusa must be shown to necessarily or inherently possess the characteristics of claim 1. Saegusa gives a listing of metal compounds but does not specify the required resulting metal oxide of “silicon dioxide and titanium dioxide” having the specified structure, as claimed in amended claim 1. Moreover, MPEP section 2112.01, subsection I states that, “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433.

Applicant provides experimental data which evidence that Saegusa does not necessarily possess the characteristics of the claimed product of amended claim 1. The experiments, as provided by way of the attached Declaration submitted pursuant to 37 CFR § 1.132, evidence the difference between Applicant’s claimed metal oxide of silicon dioxide (SiO₂) and titanium dioxide (TiO₂) and an example silica sol of Saegusa. As shown in the reproduced table below, there is an observed difference in the value of the specific surface

area between the flakes produced from only silicon dioxide such as example 5 of Saegusa and the claimed product derived from silicon dioxide and titanium dioxide.

	Silica & Titania Flakes	Silica Flakes
Components	SiO ₂ :70%; TiO ₂ :30%	SiO ₂ :100%
	Specific surface area (m ² /g)	
Sintering temperature (800°C, 6h)	182.9	111.8
Sintering temperature (850°C, 6h)	167.5	82.2

After processing, the specific surface area (m²/g) of silica/titania flakes is 182.9 and that of silica flakes is 111.8. The specific surface area (m²/g) of silica/titania flakes is twice that of silica flakes on higher sintering. As the table shows, the claimed metal oxide material in flake form produced from silicon dioxide and titanium dioxide has a higher specific surface area than that of the flakes produced from only silicon dioxide and importantly shows that the claimed “specific surface area of 130 to 3000 m²/g” is not inherently or necessarily possessed in Saegusa. The experimental results demonstrate an example where the claimed characteristics of the product in claims 1 and 3 are different than that of Saegusa and evidence the greater and superior mechanical strength of the product of claims 1 and 3.

As such, independent, amended claim 1 and all claims depending therefrom are believed allowable, as not all the elements of these claims are taught by Saegusa as required to establish a prima facie case of obviousness. For at least the foregoing reasons, Applicant respectfully submits that the claims define patentable subject matter over Saegusa.

Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 1, 3, 6-7 and 9-14 under Section 103(a).

B. REJECTIONS OF CLAIMS 1, 7-8, AND 17 OVER SAEGUSA, IN VIEW OF NISHIHAMA

The deficiencies of Saegusa have been discussed above in connection with amended claim 1. Nishihama does not supply the deficiencies of Saegusa. Accordingly, claim 1 is patentable since Saegusa in combination with Nishihama fails to teach all the claimed limitations of amended claim 1. Claims 7, 8 and 17 depend on and include all limitations of respective amended base claim 1. Accordingly, Applicant respectfully submits that claims 7, 8 and 17 are allowable for at least the same reasons as amended base claim 1. Applicant respectfully requests withdrawal of the rejection of Claims 1, 7-8 and 17 under Section 103(a).

C. REJECTIONS OF CLAIMS 6, 15, AND 16 OVER SAEGUSA, IN VIEW OF JULIAN ET AL

Claims 6, 15 and 16 depend on and include all limitations of respective amended base claim 1. The deficiencies of Saegusa have been discussed above in connection with claim 1. Julian does not supply the deficiencies of Saegusa. Accordingly, claims 6, 15 and 16 are believed patentable since Saegusa in combination with Julian fail to teach all the claimed limitations of amended claim 1. Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 6, 15 and 16 under Section 103(a).

Conditional Request For Constructive Assistance

Applicant has made a diligent effort to amend the claims of this application so that they define novel and unobvious structure. If, for any reason, the Examiner believes that the claims of this application are not yet in full condition for allowance, applicant respectfully requests her constructive assistance and suggestions pursuant to the spirit of MPEP § 2173.02 and § 707.07(j). This will enable the undersigned to place this application in fully allowable condition as soon as possible and without the need for further proceedings. The Examiner is authorized to make any needed minor corrections or changes.

CONCLUSION

The above-discussed amendments and remarks are believed to place the present Application in condition for allowance. Should the Examiner have any questions regarding the above amendments, the Examiner is requested to telephone Applicant's representative at the number listed below.

Respectfully submitted,

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